PN - JP2000334294 A 20001205
TI - METHOD FOR DECOMPOSING ALTERNATE FLUOROCARBON BY PLASMA ARC AND DEVICE THEREFOR
AB - PROBLEM TO BE SOLVED: To suck in alternate fluorocarbon of flow rate sufficient for reaction and to prevent the length of an arc for the decomposition of the alternate fluorocarbon from being insufficient by arranging an anode nozzle having a through hole of such length that the arcing point of the plasma arc is formed. SOLUTION: An anode nozzle 14 having the length of a part in which the arcing point P of a plasma arc 3a is formed is arranged. Between an electrode 12 and a plasma constraint nozzle 13, plasma gas 1 is fed to generate the plasma arc 3a between the electrode 12 and the arcing point P of the anode nozzle 14. And from above the outer periphery of the plasma constraint nozzle 13, gas 4 forming a plasma jet 3j having arc voltage higher than that of gaseous argon is fed and from below the anode nozzle 14, alternate fluorocarbon 31 is fed to subject the alternate fluorocarbon 31 to decomposition reaction by the plasma jet 3j. Carbon monoxide CO or a carbon atom C which has been generated by the decomposition reaction and has not yet been turned into gaseous CO2 is subjected to oxidizing reaction with gas 33 containing oxygen fed at the middle of a reaction nozzle 32 to turn it into the gaseous CO2.
FI - A62D3/00; B01D53/32; B01J19/08&E; H05H1/32
PA - SHINMEIWA AUTO ENGINEERING LTD; DAIHEN CORP; KURODA SHINICHI; KUSUMOTO KAZUTOMI
IN - KURODA SHINICHI; KUSUMOTO KAZUTOMI; DOI YASUO; YONEDA KOHEI; OKUBO ATSUSHI; NAKATANI FUMIHIKO
AP - JP19990152919 19990531
PR - JP19990152919 19990531
DT - I

AN - 2001-584757 [66]
TI - Plasma arc decomposition method for chloro fluorocarbon-equivalent material used as coolant, involves oxidizing carbon monoxide or carbon atoms generated during decomposition, to carbon dioxide by oxidizing gas
AB - JP2000334294 NOVELTY - Chloro fluorocarbon (CFC)-equivalent material is decomposed by plasma arc. Plasma jet-forming gas with an arc voltage higher than argon is supplied from upper part of plasma nozzle and CFC-equivalent material is supplied from lower part of anode nozzle. Carbon monoxide/carbon atom generated during decomposition reaction is oxidized to carbon dioxide by an oxidizing gas supplied from lower part of a reaction nozzle.
- DETAILED DESCRIPTION - The chloro fluorocarbon (CFC)-equivalent (substitute) material is decomposed by plasma arc. The device comprises an electrode having a small diameter through-hole for constraining plasma (plasma restricting nozzle) (13). The gas (4) which forms plasma jet (3j), with an arc voltage higher than argon gas, is supplied from upper part of periphery of plasma nozzle, and CFC-equivalent material is supplied from the lower part of an anode nozzle (14). Decomposition of the CFC-equivalent material is carried out by plasma jet. Carbon monoxide or carbon atom generated during the decomposition reaction (which has not been converted to carbon dioxide) is oxidized to carbon dioxide by an oxidizing gas (such as air) supplied from the lower part of a reaction nozzle. An INDEPENDENT CLAIM is also included for the plasma arc decomposition apparatus.
- USE - For decomposing chloro fluorocarbon-equivalent/substitute material used as coolant (to prevent ozone layer destruction).
- ADVANTAGE - The generation of plasma arc of insufficient length, for decomposing the CFC-equivalent material, is prevented reliably. Corrosion of lower part of anode nozzle is prevented. Labor for operation and maintenance of the device is minimized and the operation efficiency of the device is high.
- DESCRIPTION OF DRAWING(S) - The figure shows plasma degradation apparatus.
- Plasma arc 3a
- Plasma jet 3j
- Plasma jet formation gas 4
- Carbon monoxide oxidation gas 8
- Plasma restricting nozzle 13

- Anode nozzle 14
- (Dwg.2/12)

MW - PLASMA ARC DECOMPOSE METHOD CHLORO FLUOROCARBON EQUIVALENT MATERIAL COOLANT CARBON CARBON ATOM GENERATE DECOMPOSE CARBON GAS

PN - JP2000334294 A 20001205 DW200166 B01J19/08 024pp
IC - A62D3/00 ;B01D53/32 ;B01J19/08 ;H05H1/32
MC - E10-H04B2 E11-Q02 J04-X01
DC - E36 J04 P35

PA - (KURO-I) KURODA S
- (KUSU-I) KUSUMOTO K
- (OSKA) OSAKA TRANSFORMER CO LTD
- (SHIN-N) SHINMEIWA AUTOENGINEERING KK

AP - JP19990152919 19990531
PR - JP19990152919 19990531

PN - JP2000334294 A 20001205

TI - METHOD FOR DECOMPOSING ALTERNATE FLUOROCARBON BY PLASMA ARC AND DEVICE THEREFOR

AB - PROBLEM TO BE SOLVED: To suck in alternate fluorocarbon of flow rate sufficient for reaction and to prevent the length of an arc for the decomposition of the alternate fluorocarbon from being insufficient by arranging an anode nozzle having a through hole of such length that the arcing point of the plasma arc is formed.
- SOLUTION: An anode nozzle 14 having the length of a part in which the arcing point P of a plasma arc 3a is formed is arranged. Between an electrode 12 and a plasma constraint nozzle 13, plasma gas 1 is fed to generate the plasma arc 3a between the electrode 12 and the arcing point P of the anode nozzle 14. And from above the outer periphery of the plasma constraint nozzle 13, gas 4 forming a plasma jet 3j having arc voltage higher than that of gaseous argon is fed and from below the anode nozzle 14, alternate fluorocarbon 31 is fed to subject the alternate fluorocarbon 31 to decomposition reaction by the plasma jet 3j. Carbon monoxide CO or a carbon atom C which has been generated by the decomposition reaction and has not yet been turned into gaseous CO2 is subjected to oxidizing reaction with gas 33 containing oxygen fed at the middle of a reaction nozzle 32 to turn it into the gaseous CO2.

I - B01J19/08 ;B01D53/32 ;H05H1/32
SI - A62D3/00

PA - SHINMEIWA AUTO ENGINEERING LTD;DAIHEN CORP;KURODA SHINICHI;KUSUMOTO KAZUTOMI
IN - KURODA SHINICHI;KUSUMOTO KAZUTOMI;DOI YASUO;YONEDA KOHEI;OKUBO ATSUSHI;NAKATANI FUMIHIKO

ABD - 20010406
ABV - 200015
AP - JP19990152919 19990531

が、これに代えて、板材を湾曲させた別部材（外壁部材）をポンプケーシングに取着することによって、ポンプケーシングの一部に二重壁構造を形成することも可能である

【００３８】

【発明の効果】本第１の発明によれば、簡単な構成にまって、耐久に優れ、しかもウォータージェットポンプおよびエンジンの能力を低下させることなく、排気音を低減させることができる排気構造を具備した小型滑走艇を実現できる

【００３９】また、本第２の発明によれば、転倒した際にもエンジンまで水が侵入することのない排気構造を具備した小型滑走艇を実現できる

【図面の簡単な説明】

【図１】　本発明の実施形態にかかる小型滑走艇のウォータージェットポンプのポンプケーシング部分に形成された二重壁構造の構成を示す部分断面図である。

【図２】　図１と同じ構成を示す船内斜め上方から見た斜視図である。

【図３】　図１，図２に示すウォータージェットポンプに付設された二重壁構造の構成を示す該ウォータージェットポンプの分解斜視図である。

【図４】　エンジンから船外へ延設される排気ラインを示す小型滑走艇の後半部の一部断面した部分断面図である

【図５】　図３とは別の実施形態にかかる二重壁構造を具備したポンプケーシング部分の構成を示すウォータージェットポンプの分解斜視図である

【図６】　図４とは別の実施形態にかかる排気構造を示す小型滑走艇の後半部の一部断面した部分断面図である

【図７】　本発明の実施形態にかかるジェット推進型小型滑走艇の全体断面図である

【図８】　図７に示す小型滑走艇の全体平面図である

【符号の説明】

Ｐ……ウォータージェットポンプ

Ｅ……エンジン

Ｅｐ……排気管

１……二重壁

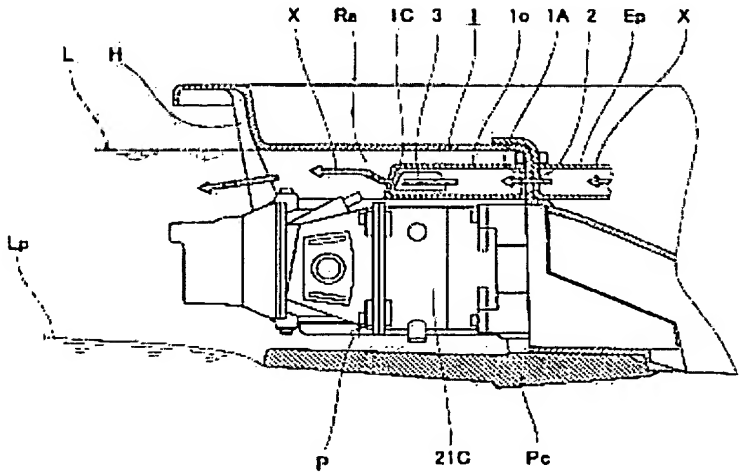
１ｏ……外壁

２……排気導入口

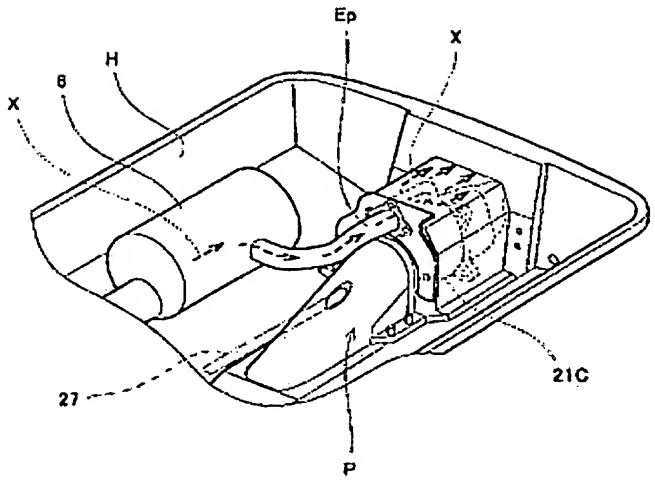
３……排気排出口

２１Ｃ……ポンプケーシング

【図１】



【図2】



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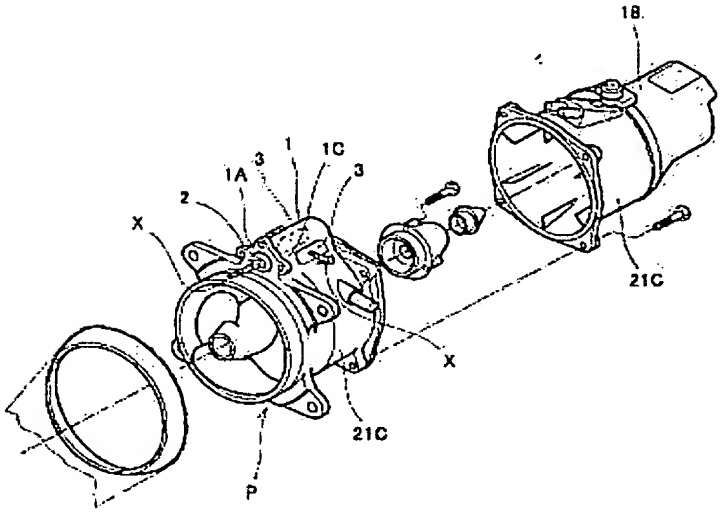
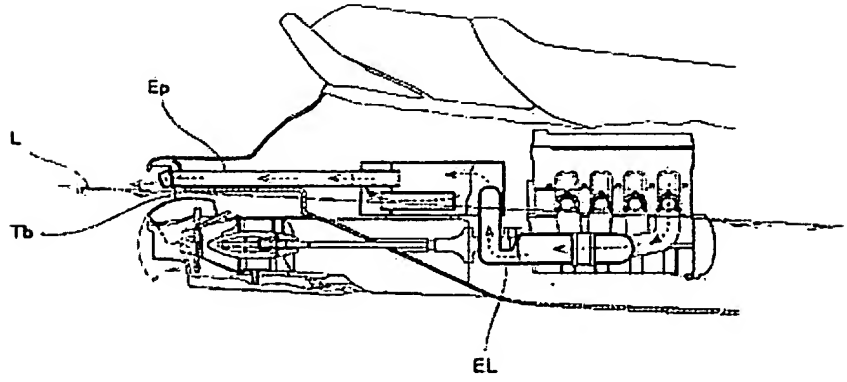
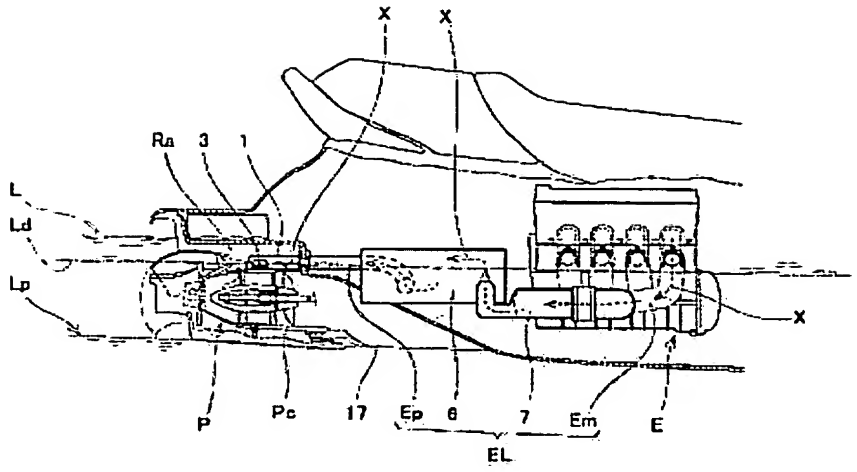


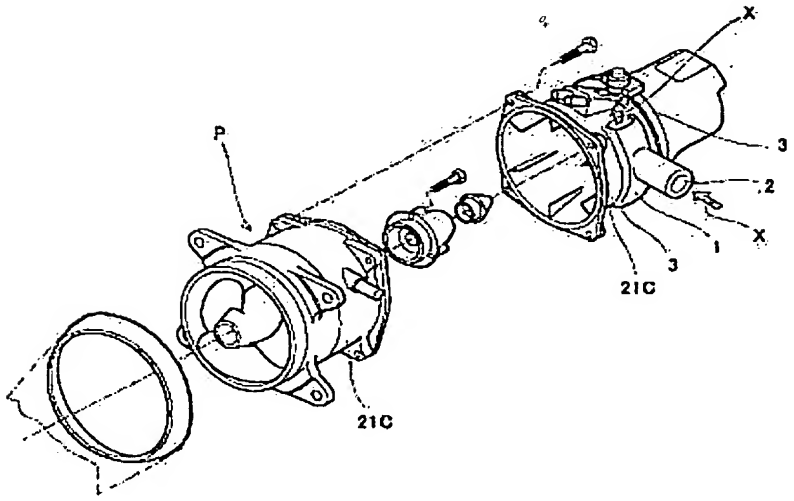
【図6】



【図4】



【図5】



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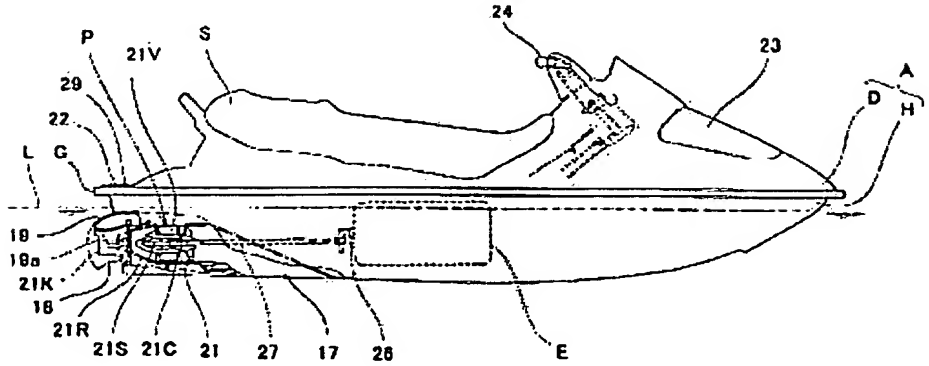
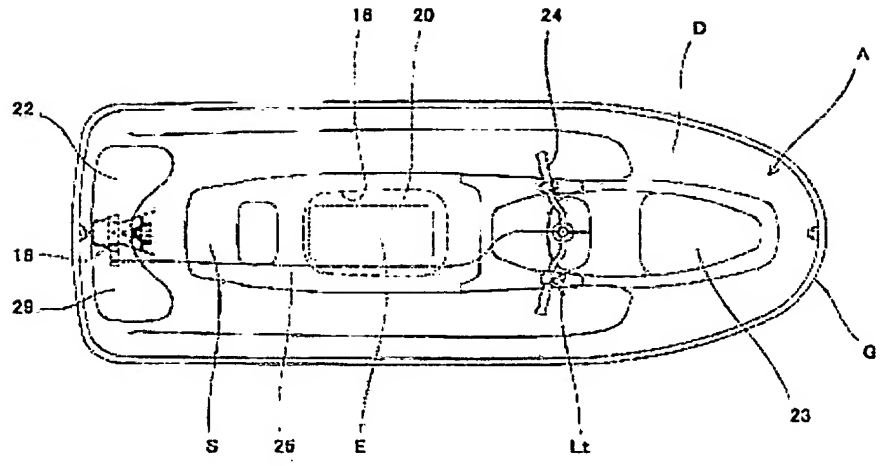


【図8】



フロントページの続き

Fターム(参考) 3D004 AA05 BA00 BA01 BA03 CA15
BA01 BA14 BA35